

ABSTRACT OF THE DISCLOSURE**DATA PROCESSING SYSTEM AND COMPUTER PROGRAM PRODUCT FOR
SUPPORT OF SYSTEM MEMORY ADDRESSES WITH HOLES**

A method, computer program product, and a data processing system for supporting memory addresses with holes is provided. A first physical address range allocated for system memory for an operating system run by a processor configured to support logical partitioning is virtualized to produce a first logical address range. A second physical address range allocated for system memory for the operating system is virtualized to produce a second logical address range. The first physical address range and the second physical address range are non-contiguous. Virtualization of the first and second physical address ranges is had such that the first logical address range and the second logical address range are contiguous. A memory mapped input/output physical address range that is intermediate the first physical address range and the second physical address range is virtualized to produce a third logical address range. A lowermost logical address of the third logical address range exceeds a respective upper most logical address of the first and second logical address ranges.